

IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Original) A controllable optical lens system, comprising:  
a chamber housing first and second fluids (10,12), the interface between the fluids defining a lens surface (15);

an electrode arrangement (14,16) for electrically controlling the shape of the lens surface (15), the electrode arrangement comprising first (14) and second (16) electrodes; and

a power source (60) for supplying current to the electrode arrangement;

means for monitoring the current supplied by the power source over time and deriving the charge supplied;

means (66) for monitoring the voltage on one (16) of the electrodes of the electrode arrangement; and

means (62) for deriving from a desired lens power a value for

controlling the total charge to be supplied to the electrode arrangement (14,16).

2.(Original) A system as claimed in claim 1, wherein the means for deriving a value is for deriving a ratio of the charge supplied to the voltage.

3.(Original) A system as claimed in claim 2, wherein the power source is also for maintaining a constant voltage ( $V_{sub.1}$ ), and is controlled to maintain the voltage on the one (16) of the electrodes after the derived ratio between the charge supplied and the voltage has been reached.

4.(Previously Presented) A system as claimed in claim 1, wherein the means for deriving comprises a look-up table (LUT).

5.(Original) A system as claimed in claim 4, wherein the look-up table receives as input an effective electrode height, which depends on the lens power, and provides as output the ratio of the charge supplied to the voltage.

6. (Previously Presented) A system as claimed in claim 1, wherein the electrode arrangement comprises:

a drive electrode arrangement comprising a base electrode (14) and a side wall electrode (16).

7. (Original) A system as claimed in claim 6, wherein the side wall electrode (16) comprises an annular electrode which surrounds the chamber.

8. (Previously Presented) A system as claimed in claim 1, wherein the first fluid (10) comprises a polar and/or conductive liquid and the second fluid (12) comprises a nonconductive liquid.

9. (Original) A method of driving a controllable optical lens, the lens comprising a chamber housing first and second fluids (10,12), the interface between the fluids defining a lens surface (15) and an electrode arrangement for electrically controlling the shape of the lens surface, the electrode arrangement comprising first and second electrodes (14,16), wherein the method comprises:

selecting (30) a desired lens power;

deriving (32) from the desired lens power a value for controlling the total charge to be supplied to the electrode arrangement;

supplying current (34) to the electrode arrangement; monitoring the current supplied (36) over time and deriving the charge supplied, and monitoring the voltage on one of the electrodes of the electrode arrangement; and

supplying current until the total charge supplied to the electrode arrangement reaches the derived value.

10. (Original) A method as claimed in claim 9, wherein deriving a value (32) comprises deriving a ratio of the charge supplied to the voltage.

11. (Original) A method as claimed in claim 10, further comprising maintaining a constant voltage (40) on the one of the electrodes of the electrode arrangement after the derived ratio between the charge supplied and the voltage has been reached.

12. (Previously Presented) A method as claimed in claim 9, wherein the deriving a value indicating the total charge to be supplied comprises accessing a look-up table.

13. (Original) A method as claimed in claim 12, wherein an effective electrode height is input into the look-up-table, which depends on the lens power, and the ratio of the charge supplied to the voltage is output from the look-up table.